

### **Remarks**

Claims 10, 11, 18, 30, 31 and 32 are under examination, claims 1-9, 12-14, and 19-29 having been previously cancelled and claims 15-17 having been withdrawn as claiming non-elected subject matter.

Applicants note that the Examiner previously indicated that SEQ ID NO:9 is free of prior art.

Applicants note that the Examiner has withdrawn the rejection of claim 18 under 35 U.S.C. § 103(a) over Kokolus et al. (U.S. 5,807,978).

Claims 10 and 32 have been amended by deleting the element “a bioactive amino acid sequence that differs from SEQ ID NO: 9 by a single mutation, wherein the single mutation represents a single amino acid deletion, insertion or substitution”. The claims have been further amended for grammatical reasons by adding the word “or” between the two remaining elements.

Claim 30 has been amended herein by deleting the element “a bioactive fragment of SEQ ID NO:9”.

### **Response to 35 U.S.C. § 112 Rejection, First Paragraph, Written Description, Claims 10, 18, and 30-31**

Claims 10, 18, and 30-31 stand rejected as allegedly lacking adequate written description.

It is the opinion of the Examiner that claim 10 lacks adequate written description because it recites, inter alia, amino acid sequences that differ from SEQ ID NO:9 by a single mutation, wherein the single mutation represents a single amino acid deletion, insertion, or substitution, asserting at page 3 that “the structure of the amino acid with its mutation(s) is not provided”. The Examiner further asserts that the structure of the polypeptide does not correlate with its function.

Although not necessarily agreeing with the reasoning of the Examiner, in order to expedite prosecution of the application, the phrase referred to by the Examiner, “a bioactive amino acid sequence that differs from SEQ ID NO: 9 by a single mutation, wherein the single mutation represents a single amino acid deletion, insertion or substitution”, has been deleted from claim 10. Therefore, the rejection as to claim 10 and its dependent claims is now moot.

Applicants submit that the written description rejection as to amended claim 10 and its dependent claims should be reconsidered and withdrawn.

Dependent claim 18, which depends from claim 10, is again rejected based on the Examiner's assertion that an antigenic composition a bioactive polypeptide of claim does not provide a structure where a mutation is claimed. As described above, the element of claim 10 reciting mutations has been deleted. Therefore, the rejection as to claim 18 is now moot and should be withdrawn.

Claim 30 again stands rejected regarding recitation of a fragment of an amino acid sequence. Although not necessarily agreeing with the reasoning of the Examiner, the element "a bioactive fragment of SEQ ID NO:9" has been deleted from claim 30. The rejection as to claim 30 is now moot and Applicants request that the rejection as to claim 30 be withdrawn.

Response to 35 U.S.C. § 112 Rejection, First Paragraph, Written Description, Claim 32

Claim 32 stands rejected for reasons similar to those asserted by the Examiner regarding claim 10, as discussed above.

Although not necessarily agreeing with the reasoning of the Examiner, in order to expedite prosecution of the application, the phrase referred to by the Examiner, "a bioactive amino acid sequence that differs from SEQ ID NO: 9 by a single mutation, wherein the single mutation represents a single amino acid deletion, insertion or substitution", has been deleted from claim 32. Therefore, the rejection as to claim 32 is now moot. Applicants submit that the written description rejection as to amended claim 32 should be reconsidered and withdrawn.

Objection to Claim 11

Claim 11 stands objected to as depending from rejected independent claim 10. Applicants submit that claim 11 is now allowable because claim 10 has been amended as described above by deleting the phrase which was rejected by the Examiner as allegedly lacking adequate written description. Applicants submit that the objection as to claim 11 is now moot and request that the objection as to claim 11 should be withdrawn.

Conclusion

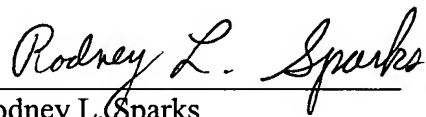
The claims, as amended, are believed to be in condition for allowance and applicants hereby request the withdrawal of the rejection under 35 U.S.C. § 112, first paragraph, as well as the objection to dependent claim 11.

Therefore, Applicants respectfully request the issuance of the Notice of Allowance and Issue Fee Due as to claims 10, 11, 18, 30 31, and 32.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (434) 243-6103.

Respectfully submitted,

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